

# Benefits of Chemical Filter Media

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**A**vailable in bulk, individual jars, pads, or stuffed in filter cartridges, [chemical filter media](#) remains a standard as one of the three types of aquarium filtration. Though it plays an important role in aquarium filtration, chemical filter media is perhaps the least understood form of aquarium filtration.

**Q** Can I use chemical filtration to remove specific chemicals or nutrients from my aquarium water?

**A** Yes. There have been a number of advancements in recent years, giving us new products that target specific chemicals. Use with mechanical and biological filters to maintain superior water quality.

## Troubleshooting Using Chemical Filter Media

**Problem:** Yellow, smelly water.

**Possible Cause:** Dissolved organics including contaminants such as decayed plant and animal tissue, fish waste, or tap water contaminants. High levels of dissolved organics are often associated with a dense fish population.

### **Recommended Solution:**

Activated carbon. Using activated carbon is one of the most effective and easiest methods of removing organics from aquarium systems. It removes organic compounds, discoloration, and odor causing materials to clarify water and help create a healthy environment for your fish.

Many beginning aquarists are not sure how it works and why to use it. As a result, chemical filter media is often under-utilized. Most chemical filter media looks like gravel or pebbles, in shades of black, brown, or white. This humble appearance contributes to the "mysterious" nature of chemical filter media.

### **How chemical filter media works**

Chemical filtration is the process of removing unwanted materials through chemical reactions. The most popular forms of chemical media, such as [activated carbon](#) and resins, incorporate a chemical process called "adsorption" to remove a single impurity, or many. Unwanted, dissolved matter is attracted and chemically bound to the surface of chemical filter media and pulled out of the water.

### **Activated carbon**

Activated carbon is covered with microscopic pores, creating large surface areas. Organic and inorganic materials stick to these surfaces. New carbon works more efficiently than

For more troubleshooting, check out the water quality troubleshooting guide, [Aquarium Filter Media Selection Guide](#).

older carbon since there is more exposed surface area. When all of the pores are covered, the carbon is no longer effective, and the activated carbon begins to act as a biological filter as beneficial bacteria begin to colonize its surface.

Carbon removes many harmful elements from your aquarium, such as copper, chlorine, dissolved proteins, and carbohydrates. It also removes most medications, and should be taken out when the aquarium is being treated. Using fresh activated carbon, when treatment is complete, helps remove any leftover medication.

### **Ion exchange resins**

Resins work by attracting specific molecules to

adhere to them. Some attract [ammonia](#), [phosphate](#) or [nitrate](#), while others actively remove [dissolved organics](#). These resins can go a long way in helping to control unwanted algae as well as removing toxic ammonia, nitrite, and nitrate.

Ion exchange resins are often mixed with activated carbon to strengthen the filtering ability. Used properly, chemical filtration can be one of the most useful tools of the aquarist.

## **ESSENTIALS: MAKE IT SIMPLE**

- [Black Diamond Premium Activated Carbon](#) works better, faster, and longer than the rest.
- [Chemi-Pure](#) removes heavy metals, copper, phenol, ammonia, and other nitrogenous waste. Helps keep pH consistent.
- [Phosphate Filter Pads](#), easy-to-use pads fit in most media baskets and will remove up to 400 mg of phosphate.

